WHAT IS CLAIMED IS:

1. A process for producing a very high viscosity polyalphaolefin product comprising contacting a feed consisting essentially of at least one alphaolefin tetradecene or dodecene ~~having from 4 to about 14 carbon atom~~ with an effective oligomerizing amount of an acidic ionic liquid oligomerization catalyst, maintaining said feed and oligomerization catalyst under preselected oligomerization conditions for a sufficient time to oligomerize the alphaolefin to the polyalphaolefin product, and recovering the high viscosity polyalphaolefin product.

2. The process of claim 1 wherein the feed comprises 1-decene.

3. The process of claim 1 wherein the feed comprises 1-dodecene.

4. The process of claim 1 wherein the acidic ionic oligomerization catalyst comprises a first component and a second component, said first component comprising a compound selected from the group consisting of aluminum halide, alkyl aluminum halide, gallium halide, and alkyl gallium halide, and said second component is an ionic liquid comprising a liquid salt containing quaternary ammonium, quaternary phosporium, or quaternary sulfonium.

5. The process of claim 4 wherein said first component is aluminum halide or alkyl aluminum halide.

6. The process of claim 5 wherein said first component is aluminum trichloride.

7. The process of claim 4 wherein said second component is selected from one or more of hydrocarbyl substituted ammonium halide, hydrocarbyl substituted imidazolium halide, hydrocarbyl substituted

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pyridinium halide, alkylene substituted pyridinium dihalide, or hydrocarbyl substituted phosphonium halide.

8. The process of claim 7 wherein the second component is an alkyl substituted ammonium halide containing one or more alkyl moieties having from 1 to about 9 carbon atoms.

9. The process of claim 8 wherein the second component comprises at least trimethyl amine hydrochloride.

10. The process of claim 7 wherein the second component is an alkyl substituted imidazolium halide.

11. The process of claim 10 wherein the second component comprises at least 1-ethyl-3-methyl-imidazolium chloride.

12. The process of claim 4 wherein the ratio of first component to the second component of the oligomerization catalyst is within the range of from about 1:1 to about 5:1.

13. The process of claim 5 wherein the ratio of the first component to the second component is within the range of from about 1:1 to about 2:1.

14. The process of claim 1 including the additional step of hydrogenating the unsaturated double bonds present in the polyalphaolefin product.

15. The process of claim 1 wherein the dimer in the product is reduced to less than 2 weight percent.

16. A polyalphaolefin product having a viscosity of not less than 22 centistokes at 100°C made using the process of claim 1.

17. The product of claim 16 having a viscosity of not less than 30 centistokes at 100°C.

18. The product of claim 17 wherein the product contains less than 2 weight percent of dimer.

19. A process for producing a very high viscosity polyalphaolefin product which is characterized by a viscosity of at least 22 centistokes at 100°C, said process comprising contacting a feed consisting essentially of at least one alphaolefin of either decene or dodecene ~~having from 4 to about 14 carbon atom~~ with an effective oligomerizing amount of a acidic binary ionic liquid oligomerization catalyst having a first component consisting of an aluminum halide or an alkyl aluminum halide and a second component consisting of a quaternary ammonium selected from selected from a quaternary ammonium halide containing one or more alkyl moieties having from 1 to about 9 carbon atoms or a hydrocarbyl substituted imidazolium halide; maintaining said feed and oligomerization catalyst under preselected oligomerization conditions for a sufficient time to oligomerize the alphaolefin to the polyalphaolefin product; and recovering the high viscosity polyalphaolefin product.

20. The process of claim 19 wherein the acidic binary ionic liquid oligomerization catalyst comprises a first component of aluminum trichloride and a second component of trimethylamine hydrochloride.

21. The process of claim 19 wherein the acidic binary ionic liquid oligomerization catalyst comprises a first component of aluminum trichloride and a second component of 1-ethyl-3-methyl-imidazolium chloride.

22. The process according to claims 20 or 21 wherein the mole ratio of aluminum trichloride to the second component is within the range of from about 1:1 and 2:1.

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